DOCUMENT RESUME

ED 045 108 LI 002 249

AUTHOR	Tom, Ellen; Reed, Sue
TITLE	SCOPE in Cataloguing.
INSTITUTION	Guelph Univ. (Ontario). Library.
REPORT NO	TR-1; U-LIB-GLPH-TR-70-1
PUB DATE	Jun 70
NOTE	54p.
AVAILABLE FROM	Library Administration, University of Guelph Library, Guelph, Ontario, Canada ($2.50)
EDRS PRICE	EDRS Price MF-$0.25 HC Not Available from EDRS.
DESCRIPTORS	*Automation, *Cataloging, Computer Programs, Cost Effectiveness, *Library Technical Processes, University Libraries
IDENTIFIERS	Library Automation

ABSTRACT

This report describes the Systematic Computerized Processing in Cataloguing system (SCOPE), an automated system for the catalog department of a university library. The system produces spine labels, pocket labels, book cards for the circulation system, catalog cards including shelf list, main entry, subject and added entry cards, statistics, an up-dated master file in machine readable form, and an accessions file. A preliminary cost study revealed an approximate saving of $19,000 per year based on 1,000 titles per week; with an approximate cost of $.80 per title. This cost, however, does not include the actual cataloging procedure. All programs are written in COBOL and the system is run on an IBM Model 50 computer equipped with eight tape drives, two 2,314 random access devices and 512K core. The system itself uses a maximum of four tape files, three disk files and 160K core. (MF)

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THE LIBRARY UNIVERSITY OF GUELPH

SCOPE in CATALOGUING

by

ELLEN TOM and SUE REED

Technical Report No. 1 U-LIB-GLPH-TR-70-1

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TECHNICAL REPORT

LI 002249

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SCOPE in CATALOGUING

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June, 1970.

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TABLE OF CONTENTS

	Page
INTRODUCTION	
PREVIOUS SYSTEM	
Cataloguing System	1
Data Processing System	4
FEASIBILITY/COST STUDY - MANUAL VS. AUTOMATED	
OBJECTIVES OF AN AUTOMATED SYSTEM	
Cataloguing	8
Data Processing	9
INPUT PREPARATION	
Coding	10
Typing	15
TECHNICAL DESCRIPTION	
Optical Scanning	16
Computer File Formats	17
Outputs	20
Program Specifications	22
FILE MAINTENANCE	
Cataloguing	25
Data Processing	26
ADVANTAGES AND DISADVANTAGES OF SCOPE	

Page

Cataloguing 27

Data Processing 29

CONCLUSIONS 30

APPENDICES

1 - Catalogue Input Sheet

2 - Typed Document

3 - Language Codes

4 - System Flow Chart

5 - Edit Lists

- Description and Action Taken (Edit Lists)

SCOPE in CATALOGUING

(Systematic Computerized Processing in Cataloguing)

INTRODUCTION

This report describes an automated system for the Catalogue Department of a university library. The system produces spine labels, pocket labels, book cards for the circulation system, catalogue cards including shelf list, main entry, subject and added entry cards, statistics, an up-dated master file in machine readable form, and an accessions file.

Development of this system began in July, 1969. Feasibility and cost studies were done at this time followed by system analysis and design. Programming was started in August 1969. Testing on small test files was initiated in October and continued until January 1970.

Training sessions for coders began in December 1969 while the typists' training began in January 1970. Test batches for volume testing were typed during the last two weeks in January and the first production batch was run in the middle of February.

Regular input (catalogued for the first time) is run weekly while up-dates (corrections and adders) are run every two weeks. Up-dates were incorporated into the system April 1970.

PREVIOUS SYSTEM

Cataloguing System

From Fall 1965 to March 1970 University of Guelph Library produced its catalogue cards, pockets, spine labels, book cards by a manual system.

Card Production

The catalogue copy produced by the cataloguers went with the book to the catalogue typists. A book pocket with call no., author and title was prepared and placed in the book at the title page. A multilith master was typed from the catalogue copy. The typist indicated the number of cards to be printed in the upper right corner. The masters were revised (catalogue copy compared against typed copy): English language by the typing revisers, foreign languages by professional librarians. The catalogue copy was separated from the master and filed alphabetically by main entry. The masters were sorted according to number of cards to be printed and taken to be printed on an A.B. Dick offset duplicator. The books went to Book Processing Section of the Catalogue Department. When printed, the card sets were returned to the Typing Section and the catalogue copy for each set retrieved from the file. Subject headings, added entries, "Library has" notes and holdings were typed on the cards. The headings were revised and sorted into piles: main entry and added entries, shelf list, data processing and subject.

Revision and Disposition of Cards

The Shelf List (S/L cards) and Data Processing cards (D.P. cards)*, and matching catalogue copy went to professional cataloguers for revision. The main and added entry and subject cards were alphabetized and given to the File Maintenance Section of the Catalogue Department. The main catalogue cards for books sent to the Bindery were given to the Bindery Clerk to insert into pockets that had been removed from the books before they were sent to be bound.

The Shelf List cards (S/L cards) were proof-read for cataloguing and

* see Data Processing System, page 4

typing errors. The catalogue copy was consulted if necessary. If an error was discovered the corresponding Data Processing card was removed and the two cards attached to the catalogue copy. A correction form was written out to have rest of card set corrected. Typists and cataloguers had their mistakes pointed out. The typists corrected the D.P. and S/L cards. The S/L cards were given to Shelf List Clerk who put cards in call no. order and filed them. For each card filed the clerk had to withdraw the temporary S/L slip that had been filed by the cataloguer. If no slip was filed, the S/L card was returned to Assistant Head of Catalogue Department. The temporary S/L slips in call no. order were given to Systems and Data Processing Department to have book cards keypunched. The D.P. cards were given to the coder in Data Processing Department.

Book Processing

Meanwhile, the Book Processing Assistants had typed the call no. as given on the pocket onto a spine label using a Se-lin machine. The labels were trimmed and ironed on; the pockets were attached to the front inside cover and the books ownership - stamped on the versa of the title page and on the three edges. The books were shelved in call no. order to await the book cards. Then, the card was inserted into the book pocket and the pocket and card stamped with a number for easy recognition by the Circulation Section. The temporary S/L slip was used as a final check of the spine label and destroyed as the book was put on a truck, to be taken to the Subject Floor. The Request Forms were removed from the books and returned to the academic department who requested the book.

Statistics

The number of new titles, added volumes and copies, monographs, serials, rare books, and microfilms, added to the Main and Ontario Veterinary College libraries were obtained from the S/L cards.

Data Processing System

In early 1966, as the University of Guelph was planning a new central library building for the campus, it was agreed that an automated library system designed to compliment the building would be a goal worth pursuing. The requirement for such a system were defined in May, 1966, and included:

1. A catalogue in machine-readable form, capable of producing book catalogues for the subject floors of the library, accession lists for the faculty.
2. A circulation system, initially off-line, but with on-line capabilities.
3. A serials system.
4. A document system.
5. An acquisition system.

It was concluded that the catalogue was the primary record of all the sub-systems, and should form the basis of the Guelph automated library design.

Using examples from the University of Toronto and the University of British Columbia, Guelph began the Master File (catalogue in machine readable form) in July 1966. Initially, only 6 data elements were input, in fixed fields, using an IBM 029 Key-punch machine. An extra card was supplied from the Catalogue Dept. for each title processed, and was used for coding. (Data Processing card)

The Master File, at that time, was considered essentially an experimenta tool, although accession lists were produced on a weekly basis for the faculty. Valuable experience was gained in translating cataloguing conventions to a coding manual, and examples of all the possible variations which can occurr in a catalogue established in 1874 were obtained.

In 1968, using MARC I and the accumulated experience of the Guelph system, a complete record, with fixed fields for the MARC codes and variable fields for the data elements, was input.

A new manual and coding sheets were prepared, and the retrospective catalogue as well as current titles from the Cataloguing Dept. were input. This Master File was completed by the addition of the Guelph records which had been catalogued by the Ontario New Universities Library Project (ONULP), which were available on tape.

The Master File was used, in June, 1968, to prepare the book cards for the circulation system, which was to be implemented at the time of the move into the new library building in August 1968. Also concurrent with the move was the switch from the IBM 029 Key-punch machines to Mohawk Key-tape devices for input.

In addition to continuing to produce the Master File from the extra catalogue card supplied from the manual catalogue system, the coding manual was revised and up-dated, and MARC II implications were identified and merged into the system in 1969 and 1970.

In January, 1969, at the request of the Senate Library Committee, a project to catalogue all the holdings of the department libraries was undertaken. With only a limited time (6 months) and small increase in staff (15 positions) to process approximately 40,000 volumes, it was decided to test a completely automated cataloguing system for the project, producing catalogue cards, spine labels, pocket labels, book-cards, etc. This project, using limited data elements, was successfully terminated in September 1969, and provided the experimentation necessary to begin the full automated cataloguing system, SCOPE, which is described in this paper.

The Master File, with its varying types of records and levels of completeness has created unfortunate problems in the implementation of update routines in SCOPE. A Master File Up-date Project is underway, to complete and correct any imperfect records now existing. The experimentation which produced the Master File was necessary, however, and the circulation system, book catalogues, accession lists, and many other services of the library would not have been possible without it.

FEASIBILITY/COST STUDY - MANUAL VS. AUTOMATED

A preliminary cost study revealed an approximate saving of $19,000.00 per year - the manual system costing $69,000.00 and the automated system costing $45,000.00 per year. These costs are based on a 1,000 titles per week which indicate that the cost per title in an automated system is approximately $.80. This cost, however, does not include the actual cataloguing procedure.

Manual procedures which are eliminated or revised by an automated system are as follows:

1. Catalogue typists.

   Catalogue masters with proper indentions and spacing are no longer typed. A coded worksheet is used as a source document and computer input is prepared on IBM selectric typewriters equipped with a special font. The format is relatively free-form and each line of type contains a maximum of 110 characters.

   Subject and added entry headings are not typed on the card sets - they are generated automatically by the system.

   Sorting of card sets into their various categories is not done.

Shelf list cards are computer produced in call number order; main entry cards, subject heading cards and added entry cards in alphabetic order.

Pocket labels are not typed - produced automatically by the system.

2. Adders

Added copies and volumes are not typed on the shelf list card. The additions are coded on the worksheet and an up-dated shelf list card is computer produced. Similarly, a new pocket label and spine label would be produced to reflect the additional holdings.

3. Book Processing.

The form prepared to initiate the manual punching of book cards is no longer necessary, since book cards are punched from the computer.

Se-lin (spine) labels are not typed or ironed on the books.

4. Library Systems.

Re-keying of bibliographic data to update the master file is not necessary.

5. Corrections.

Erasing and re-typing to correct card sets in error is not done. The correction is coded on the worksheet and input in the same manner as new titles. Appropriate card sets are produced, depending on the data element(s) up-dated.

OBJECTIVES OF AN AUTOMATED SYSTEM

Cataloguing

For the University of Guelph Library the objectives were:

1. An automated system should capture all the bibliographic information that had been possible with the manual system.

2. The indentions should be the same.

3. The "library has" notes should appear on the main card, with "for holdings see main card" on the added entry cards.

4. Holdings should appear on the shelf list card only.

5. "Bond withs" should produce only one shelf list card, one set of labels and book card, but a card set for each "bound with" item.

6. Shelf list reference cards for completely analysed series should be produced where necessary.

7. The location should be printed on the card set and pocket label.

8. Headings should be printed on added entry cards.

9. Spine labels should be large enough and black enough to be easily read. When attached to the book, the label should remain attached under normal conditions.

10. The book pocket label should give the call no., main entry and short title.

11. A book card for circulation purposes should be produced. The Master File should be up-dated without having to input the catalogue record twice.

12. The work of the cataloguers should not be increased so that their output is lowered.

Data Processing

The capture of bibliographic data and its conversion to machine-readable form is important for several reasons:

1. To test the capabilities of a more efficient and less expensive method of producing
   a. catalogue cards
   b. book cards
   c. pocket labels
   d. spine labels
2. To provide the facility for quick file manipulation with print-outs in a variety of defined areas: e.g., subject classification, location within library, form (microfilm, reference, etc.)
3. To provide the capability to produce an accessions file which is used to produce selective lists by department as well as a circulation file used in the computerized circulation system.
4. To provide the base for bibliographic data transfer among university libraries.

INPUT PREPARATION

Cataloguing

The cataloguers attach the LC or NUC copy to the lower right side of the

coding sheet. If there is no copy available the original cataloguers use the lower part of the coding sheet as a worksheet. Any corrections or additions are indicated on the copy and written in the space to the left of the copy. Cataloguing is the same as with the manual system except that the call no. is written as part of the fixed field data, and the holdings are written in a horizontal line at the end of the copy. As some of the fixed field information is more easily determined by a cataloguer, he is responsible for filling in most of the fixed field information: call no., cataloguing origin, language and Type II indicators.

Coding

After revision, the coding sheet and book/s go to the Coding Section. The cataloguers' coding is checked. The date and Type I indicators are added to complete the Fixed Field information. The coders add the function codes and other indicators to the Variable Field information.

The coding sheet is divided into two parts: fixed data and variable data (see appendix 1).

The fixed portion consists of 19 fields:

1 - File Maintenance Code

E - erase an entire master record
in this case the call number only is coded

D - delete a data element(s) or fixed field(s)

C - change a data element(s) or fixed field(s)

A - add a data element(s) or fixed field(s)
blank - a new master record (does not exist on the master file)

2-10 - Call Number

11 - Catalogue Code (origin)

L - LC

P - original recatalogued

O - original

M - LC recatalogued

12 - Language indicator

S - work contains one language only

T - work is a translation

M - work contains more than one language

D - the work is a dictionary of more than one language

G - the work is a language grammar or reader

13-14 - Language 1 and Language 2
(see appendix 3 for language codes)

15 - Publication date indicator

S - date of publication is known or probable and can be represented by 4 digits. Date of publication is given in date 1 and date of copyright (if it appers in imprint) is given in date 2

R - the work is a reprint

N - date of publication not known

M - date of publication is multiple
if closing date is not known, 9999 is coded in date 2

Q - one or more digits of the date is missing. The missing digits are coded as dashes.

16-17 - Date 1 and Date 2

18 - Type I Indicators - if the condition exists following the appropriate letter a check-mark is coded.

Illustration (A) - the work contains illustrations other than maps

Map (B)

Series (C) - the work is part of a series

Bibliography (D) - the work contains a bibliography or is itself a bibliography

Type of Secondary Entry

- subject (E)
- title (F)
- personal author (G)
- corporate author (H)
- government author (I)
- uniform title (J)

Supplement (K) - the work is a supplement or a dash-on entry

19 - Type II Indicators

- Location with the main library; i.e., the work is located in a position other than the call number would indicate (L)

  T - rare book room

  R - restricted circulation

  D - documentation centre

  C - catalogue department

  Ø - order department

  B - bibliographic search dept.

  S - serials dept.

  L - interlibrary loan

  I - information desk

  P - periodical browsing area

  E - theses collection

  1 - 5 1st -5th floors

- Location (branch) (M)

  V - OVC branch, otherwise blank for main library

- Form (N) of the work.

  1 - reference

2 - periodical

3 - microfilm

4 - microcard

5 - microprint

6 - microfiche

7 - bound with or filmed with, analytic

- Type of Main Entry (O)

A - personal author

B - government body

C - corporate author

D - uniform title

E - title

- Type of Work (P)

M - monograph

S - serial

- Pamphlet (Q) - the work is to be inserted into a pamphlet binder
  - a check mark is coded

The main body of the catalogue card is input as variable fields which are made explicit by their own function code which precedes the field and the at-sign (@) symbol which terminates the data element. Other delimiters are used in the coding function to denote subfields and provide aids for programming decisions. The number sign(#) is used in the title statement to indicate the end of a short title or to separate the title proper from the "by" phrase; in the edition statement to separate the actual edition information from the remainder of the statement; in the holdings statement to indicate an incomplete set; to separate subjects, titles, and series in the subject, title and series tracings respectively. The

slash (/) is inserted between author and title in a series statement, personal author added entry and corporate author added entry. The dollar sign ($) is used in the copy, holdings, and holdings for analyzed series statements to separate the components of the data elements.

A file maintenance code is inserted between the function code and the variable field of each data element to enable different types of processing to occur for the same call number at the same time.

No space is left between the last character of a data element and the end of field delimiter (@). Variable fields end with a period except those containing information in parentheses or square brackets, or an open date in the element. Correct spacing is indicated by coding "^".

The following describe the data elements incorporated at the present time.

Data Element	Function Code
call number revision	00
main entry	10
filing title	15
title statement	20
edition statement	25
imprint statement	30
collation statement	40
frequency statement (serials)	45
series statement(s) (series tracing in same form)	50-54
series statement(s) (series tracing in a different form or not traced)	55-59

notes (includes series notes)	60-69
subject tracing	70
personal author tracing	71
corporate author tracing	72
uniform title tracing	73
title tracing	74
series tracing	75
tracing for an analytic	76
copy statement	80
holdings statement	82
holdings for an analyzed series	85

Books to be bound are catalogued and coded. However, the documents are not typed until the book has returned from binding.

Typing

The completed coding sheet and book/s pass to the Catalogue Typing Section. The information coded on the Catalogue Input Sheet is typed on continuous fanfold sheets (11" X 14") which meet the specifications for optical page reading.

The typewriters used are IBM selectrics which are equipped with a 65 character 915-OCR keyboard, as well as a special font for use with Control Data Corporation Scanners. Moore Business Forms 500 Series formaliners are attached to all machines used for input preparation.

Each page of type begins on line two with a new transaction, and all data lines are double-spaced. An asterisk (*) denotes the beginning of the fixed field data which is typed on one line. A slash (/) is typed at the end of each

fixed field whether or not the field contains data. Spaces left by the coder at the beginning or end of a fixed field are not indicated by the typist. Depending on the field, a program justifies the field correctly and makes the field the proper length. A per cent (%) sign terminates the fixed field information.

The first variable field begins a new line and each typed line of variable data starts with a new word: i.e., the typist does not have to start a new line when she encounters a function code. No spaces are left after the "chair" (↑) (which is converted to an at-sign) terminating one data element and the function code indicating the start of the next data element.

When more than two blanks are coded in succession, the typist inserts arrows (↓↓↓) which are converted to spaces.

If a typist makes a mistake in a line while she is still typing that line, she may back-space and "christmas-tree" (⚹) the characters in error and continue typing. If she is unable to do this, she may back-space to the beginning of the line and line-delete (——) for a minimum of ½ inch. If the error is detected after she has carriage returned, the line may be deleted with a felt pen in the same manner as a typed line-delete.

The coding and cataloguing data is typed, revised, and corrected. Foreign language documents are revised by a cataloguer. English language documents are revised by the Typing Revisers. The coding sheets are placed in the book/s with the call no. showing. The books go to the Book Processing Section where they are put in call no. order.

TECHNICAL DESCRIPTION

Optical Scanning

The typed documents are batched and sent with a magnetic tape(s) to York

University (Toronto) every Friday morning via IUTS (Inter-University Transit System). A courier service delivers the input to Optical Scanning Services, Division of Compscan Ltd. located in downtown Toronto.

The documents are read on a Control Data 915 Optical Page Reader. At the reading station, character images are reflected onto a mirror, converted to electronic impulses and entered into the computer in binary codes through the reader's controller. The computer than readies the information for recording. Magnetic tape output is produced by a program written by Mr. Allan Truesdell of Optical Scanning Services.

If an error is encountered at the reading station a marking pen imprints a dot to the left of the line containing the error and the page is sorted into the secondary hopper. Our error rate on the scanner, up until now, has been less than .05%.

The output tape and documents are returned to York University over the weekend and arrive at the Library, University of Guelph, via IUTS on Monday morning.

Scanning costs are $35.00 per hour and transportation costs back and forth from York University to Compscan Ltd. are $7.00 a batch. At this stage our scanning cost per line ranges between $.0075 and $.01.

Computer File Formats

1. Transaction file - is the output produced from the DCD 915 Optical Page Reader. The file is unblocked with a record length of 155 bytes:
    a. each typed line produces a physical record of 110 bytes.

b. an additional 45 bytes is added in front of the record on output:

(i) physical record sequence number - 2 bytes

(ii) call number - 42 bytes

(iii) file maintenance code - 1 byte

2. Shelf List Master file - is a variable length unblocked file. The fixed field portion of the record is 117 bytes which contains the information coded in fields 2 - 18 on the catalogue input sheet as well as control fields for the number of directories, number of trailers and number of directory trailers.

The variable portion of the record consists of a maximum of 120 trailers - each trailer is 20 bytes in length.

A directory is 10 bytes long (2 directories per trailer) and contains the following information:

a. tag - is the function code used to describe the type of data element
- 2 bytes

b. indicator - one byte
- not used

c. length - the number of trailers used by a particular data element
- 2 bytes

d. starting position - the number of the first trailer of a data element relative to the fixed portion of the record
- 3 bytes

e. last character - the number of characters in the last trailer of a data element
- 2 bytes.

3. Book Card File - is a fixed length (785 bytes) blocked (9 records per block) file containing information to produce the spine labels and book cards. The record contains the call number in two formats:

one format contains no punctuation (book card) while the other contains punctuation where applicable (spine label). The form code is carried because the mnemonic is punched in the book cards, and in certain cases is printed on the spine label. 500 bytes are used for volume numbers or holdings for analyzed series and 200 bytes are maintained for copy numbers.

4. Catalogue Card File - is a fixed length (139 bytes) blocked (25 records per block) file containing catalogue card information. Each record contains a catalogue card line image (49 bytes) preceded by 88 bytes of sorting information as follows:

   a. 1st line - an asterisk in the first position indicated the first line of a catalogue card set.

   b. catalogue code - is a two position field indicating to which catalogue the card set belongs; e.g. 00 is shelf list catalogue; 12 is the main library subject added entry catalogue.

   c. call number - 42 positions.

   d. Sort data - 42 position of main entry or added entry information depending on the catalogue to which the card set belongs. Hyphens are eliminated from the sort field in subject added entries; in title added entries, certain articles based on languages are also eliminated from this field.

   e. Sequence number - is the line sequence within the catalogue card set.
      - there is a maximum of 18 lines of data per catalogue card

5. Accessions File - is variable length unblocked file containing information to produce selective lists by department and a circulation file.

The fixed field information (130) bytes consists of the call number, form code, fixed portion of author and title (40 bytes) each to facilitate sorting and control information (the number of trailers used by author, title and imprint data).

The variable portion of the record is a maximum of 800 bytes containing author, title and imprint information.

Outputs

Every week the Catalogue Department receives two edit lists, statistics, S/L cards, catalogue cards, book cards, pocket and spine labels.

Edit Lists

One edit list indicates the errors the optical scanner has spotted and the other edit list indicates the errors the programs have detected. Error messages are printed along with the complete record as it was typed. The Catalogue Typing Supervisor is given the edit lists and the typed documents. She locates the typed record for each item on the edit lists and notes what the error is. She may point out the error to a typist if she feels this would benefit the typist. The edit lists and documents are returned to Assistant Head of the Department who looks the sheets over. Sometimes there is a scanner or programming problem that needs to be brought to the attention of the Systems Department. The books are retrieved and the records retyped.

Statistics

The statistics: number of titles added to the Main and OVC libraries, number of added copies and volumes of monographs, serials, microfilms, theses, rare books, etc. are printed at the end of the edit lists as well as the number of masters read, written, up-dated, erased and number of transactions rejected,

number of call number change records, number of catalogue card records.

S/L Cards

The S/L cards come in call number order. There are 6 sections: main collection, OVC, S/L rare books by call number, S/L cards for the Serials List, theses cards for the National Library, and rare books in alphabetical arrangement.

Catalogue Cards

The catalogue cards are in alphabetical order within the three divisions: main entry, subject, added entries. The OVC card sets for the OVC catalogue come at the end.

Book Cards

The book cards are for use in the automated circulation system. These are in call number order.

Labels

The pocket labels and spine labels come in sheets in call number order. The pocket labels give the call number, location if necessary, main entry and short title.

Revision

The S/L cards are proof read by professional cataloguers for typing, cataloguing, coding, and programming errors. The error-free cards go to the Shelf List Clerk for filing. Using the S/L cards with errors, the catalogue cards to be corrected are pulled from the cards for the Main and OVC catalogues, and the labels and book cards are pulled if necessary. Coding sheets are prepared to have the errors corrected. The catalogue cards are given to File Maintenance.

Book Processing

The labels and book cards are given to Book Processing. The pocket labels are put on blank pockets using the call number on the coding sheet as a guide. The spine labels are attached and covered with Mylar tape to prevent the labels from developing ragged edges and to keep them clean and readable. The book card is inserted in the pocket and the pocket and card number stamped for easy identification If there is a temporary S/L slip for the book it is released to the Subject Floor, and the Request form and coding sheet are removed.

Program Specifications

All programs are written in COBOL and the system is run on an IBM Model 50 computer equipped with 8 tape drives, 2 2314 random access devices and 512K core. The system itself uses a maximum of 4 tape files, 3 disk files and 160K core.

1. LMF010A - input is the shelf list transaction file produced from the typed documents. The COBOL Sort Feature is used in this program and the input file is sorted on call number and record sequence number in ascending sequence and file maintenance code (descending sequence). The descending sequence enables erase transactions, for example, to be processed before a "new" record when the same call number is used.

   Outputs are a sorted shelf list transaction file and an edit list (see Appendix 5 for description of error messages and action procedures)

2. LMF011A - input is the sorted shelf list transaction file produced by LMF010A. The master file is used as input only when up-date transactions are processed. A control card is used to determine if there is an input master file, an input transaction file, and if outputs are required.

The following outputs are produced:

a. pocket labels - 3 up
   - maximum of 8 lines per label

b. accessions file

c. book card file

d. catalogue card file

e. up-dated master file when up-date transactions are processed or a supplement master file when new titles are processed

f. call number change file - produced when an up-date transaction has a function code of 00 in the variable data. Since the input is sorted on "old" call number, this file is not in call number sequence; therefore, it is sorted prior to being merged with the master file.

g. edit list - see appendix for description.

3. LMF012A - input is the book card file produced by LMF011A. The outputs produced are spine labels (12 up), book cards and an edit list (see Appendix 5 for description).

4. LMF013 - produces the catalogue cards 2 up. Input is the catalogue card file produced by LMF011A.

   This program uses the COBOL Sort Feature:

   a. The input procedure accumulates a count of each record containing an asterisk in the first position which gives us the number of catalogue cards to be printed. This count is divided in half so that two files can be created when the records are returned from the work areas.

   b. The output procedure begins writing records on one output file until the number of records written equals the divided count obtained in the input procedure. The remainder of the sorted records are

then written on the second output file.

When all the records are returned from the sort, the output files are closed automatically. The program opens these files as input, reads a record from each file and prints a line. This processing method produces printed catalogue cards 2 up, sorted vertically.

5. LMF014 - processes inquiry transactions against the Master File. The program is run prior to processing corrections which have been generated by the manual system.

Input is the shelf list master file and a sorted transaction file (call number sequence).

Punched cards are produced from the source documents (1 call number per card), processed by a utility to create a magnetic tape file which is sorted to generate the input transaction file.

If the input transaction gets a "match" on the master file, the entire master record is printed. If a "no-match" condition exists, an error message is printed.

6. LMF062A - is a merge program. It is used to merge:

   a. the supplement master created from the weekly runs.

   b. the merged supplement masters with the shelf list master file - this is done twice a month prior to the up-date transactions being processed.

A print-out is produced displaying all duplicated records. The first record printed in a set of duplicates is the record which is retained on the Master File.

FILE MAINTENANCE

Cataloguing

As many errors as possible are corrected at the time the S/L is proof read. However, there are other changes necessary to be made to cards, card sets and book labels and cards.

Adders

To add a copy or volume, the main entry card is pulled by the Adder Assistant, leaving a Card Withdrawal form in its place. The S/L card has the added copy or volume pencilled on it and a red X added to the upper right corner. On a withdrawal form only so much information can be retained. Therefore, the S/L is left filed so that the catalogue information is available during the period when the up-dates are being processed. The red X indicates to the Shelf List Clerk that the S/L card can be destroyed when the new one is produced. A coding sheet is made out and revised. The Adder Assistant types the documents from her coding sheets and the books go to the Book Processing Section with the coding sheet.

Corrections

The Corrections Assistant takes the Correction Form that has been made out by the cataloguer and pulls the catalogue cards indicated. She leaves a Card Withdrawal Form when she pulls the main entry card. The S/L card has the correction indicated on it and a red X put in the upper right corner and is left filed in its right place in the S/L. A coding sheet is prepared and revised. The coding sheet, Correction Form and cards and/or book go to the Cataloguer who supervises corrections. After revision, the coding sheet and/or book go back to the Corrections Assistant who types the documents. The books go to the Book Processing Section with the coding sheets and are interfiled by call number with the Adders.

The S/L corrections, Adders and Corrections are run every two weeks against the Master File, and cards, labels and book cards are produced as well as the Master File being updated. These S/L cards are proof read and the rest of the procedure is the same as for the regular books.

Until the Master File Up-date Project is completed in the Fall, the bibliographic information on the Master File is not complete. Therefore, the Adders and Corrections Assistants inquire what is on the Master File before making any changes. To inquire they code the call number only. These inquiries are collected every Friday morning and run against the Master File. Answers are received Monday morning. Then, the Assistants can proceed with the additions and changes and at the same time up-date the Master File record to match the S/L card.

Data Processing

Any computer system can be deemed efficient only when it is capable of up-dating the master it creates with a minimum of input preparation.

Additions, deletions, or changes to an existing shelf list master file record are coded on the Catalogue Input Sheet. The editing and coding procedures are the same as entering a new master record with one exception. The file maintenance code (field 1 in the fixed field data and the position following the function code in the variable data) must never be blank when an up-date transaction is required. This field must contain one of the following: 'E', 'A', 'D' or 'C' (see coding for description of codes)

There is however, a restriction in updating fixed field information. Because each fixed field does not have its own file maintenance code on input, when more than one type of transaction is required for the fixed fields of the same call number, the number of transactions initiated by the coder equals the number of

different types of transactions (three).

Each variable data element has its own file maintenance code; therefore, all three types of up-date transactions (A,D,C) may be coded on the same Catalogue Input Sheet for the same call number.

Sometimes, a work may be catalogued with an incorrect call number or after a work is catalogued, the classification may be changed. To accommodate this situation, a function code of '00' was incorporated. A 'C' is coded in fixed field 1 (file maintenance code): the incorrect or "old" call number in fixed fields 2-10; function code'00' followed by a file maintenance code of 'C' followed by the revised or "new" call number (with correct spacing) is coded in the variable portion. If any other data elements are incorrect in the record, they may be corrected in the same transaction.

It should be noted that a file maintenance code of "A" is only used when adding a data element which does <u>not</u> exist in the record with the following exception: added copies, volumes and holdings for analyzed series may be added to their existing data elements by coding an "A".

Applicable outputs are obtained from up-date transactions depending on the data element being up-dated; e.g., if a title statement is changed, all card sets and pocket label(s) are produced - no spine label or book card is necessary; if volumes are added, shelf list card, main entry card, additional spine labels, pocket labels and book cards are produced.

ADVANTAGES AND DISADVANTAGES OF SCOPE

<u>Cataloguing</u>

<u>Advantages</u>

1. The catalogue record is input only once, not twice as before. In

addition the coding and typing is consistent with the Catalogue Department practices.

2. Headings no longer have to be typed, revised and fitted onto the catalogue cards.
3. The catalogue cards and S/L cards do not have to be put in order before filing.
4. Pocket and spine labels do not have to be typed and application time is shortened.
5. The book cards arrive with the labels in call number order.
6. The books in Book Processing are easily accessible because they are in call number order.
7. Adders and Correction are easier for the Assistants to handle. Rather than erasing and retyping, the Assistant codes the change.
8. Half the number of typists are required to do the typing. The extra typists have been assigned to extra tasks not previously possible e.g. (such as inputting theses, rare books, Chinese and Japanese cards, Pollard and Redgrave cards, etc.)
9. There is a marked decrease in the number of typing mistakes.

<u>Disadvantages</u>

1. With the manual system we were dependent on the resident operator being available for printing and there were frequent breakdowns of the printing machine. Now we have different inconveniences: the optical scanner is in Toronto and IUTS is our way of getting the documents and tape there and back; there are computer breakdowns as well as computer time being committed to other jobs; the person who bursts and trims the cards is not always reliable: cards have been left behind in the burster

and the catalogue cards have been sent over 1/8 inch too wide. However, the Systems Analyst tries to keep these annoyances to a minimum.

2. Corrections and Adders were processed manually almost weekly. With SCOPE they are run against the Master File every two weeks. Rush Adders and Corrections are processed manually.
3. Some catalogue copy cannot be processed by SCOPE because it is in mathematical symbols, Chinese, Japanese characters. The cards and labels are produced manually. The Master File is up-dated using those words that can be romanized. In 16 weeks we have done 3 records manually.

Data Processing

Advantages

Bibliographic data in machine-readable form has made it possible to produce:

1. Author/title listings by floor in call number sequence as well as author sequence.
2. Monthly selective lists of accessions by department.
3. Selective author/title lists on request.
4. Author/title lists for reference and restricted collections.
5. Author/title file which keeps the circulation system author/title file in a current status.

The above are a few of the outputs produced at the University of Guelph Library. It is realized that the potential is almost unlimited.

Implementation of SCOPE has provided valuable experience for librarians and EDP personnel in the techniques of library automation.

Possible Disadvantages

To some librarians, the fact that the catalogue cards are produced in

upper case may be a disadvantage of the system. From a systems point of view, however, it is a decided advantage since the processing cost is less for both upper case input and output.

The fact that the shelf list master file is not in the MARC II communications format may also seem to some to be a disadvantage. Although to convert MARC II to our format and vice versa would not be overly difficult, MARC II has additional fixed fields, and uses indicators and subfield codes for which Guelph has not provided. Whether the complexity and detail specified in the MARC II format is necessary, is another question, which we are not prepared to answer at the present time.

CONCLUSIONS

During the development and implementation of SCOPE, we have made the following conclusions:

1. System analysts should be on the library staff and be familiar with existing library procedures.
2. Librarians should have some systems background as well as a thorough understanding of manual operations.
3. Cooperation must exist between the library systems department and the library department involved in an automated project. Each department must be aware of the responsibilities and problems of the other.
4. Requirements for file formats must be recognized and included at the beginning of the design of a new system; e.g., what data elements do we need? Have we provided for them?
5. Operations outside the library must be rigidly scheduled and controlled; e.g., optical scanning.

6. Automated systems do not necessarily cost more than manual systems. SCOPE has reduced labour costs and increased accuracy in the University of Guelph Library.
7. Additional services (book catalogues, bibliographies etc.) made possible by a machine-readable master file add immeasurable benefits to the total library system.
8. The maintenance of a machine-readable master file has reduced insurance costs considerably.
9. There is no user hostility to the upper case catalogue cards, or to the variety of catalogue cards (L.C., typed, offset, ONULP) existing in the card catalogue.

Cooperation and compromise was maintained throughout the implementation of SCOPE between the departments involved. As a result; the occurrence of problems was minimal.

APPENDIX I

UNIVERSITY GUE LI
CATALOGUE INPUT SHEET

F/M CODE: C 1

CALL NUMBER: QK 980 S8

SEQ NØ.: 0

Cat. Orig.: L

LANGUAGE IND I II: SENG

DATE IND I II: S 1963 1950

INDICATORS (I): Illus. A ✓ Map B ✓ Series C ✓ Bibl. D ✓

INDICATORS (II): Subj. E ✓ Title F ✓ Pers. G Corp. H Govt. I Uniform J Supp.No. K Main L Campus M Form N M.E. Ø A Work P M Pamphlet Q

Func. Code	F/M	VARIABLE DATA
30	C	NEW YORK, COLUMBIA UNIVERSITY PRESS [1963, c1950] @
40	A	xix, 643 p. .. ILLUS., MAPS. @
50	A	(COLUMBIA BIOLOGICAL SERIES, NO. 16) @
60	C	BIBLIOGRAPHY: P. [563]-622. @
75	A	(SERIES) @
80	C	$c.1 $c.2 $c.3 (1960) $ @

UNIVERSITY OF GUELPH LIBRARY
CATALOGUE INPUT SHEET

F/M CODE 1

CALL NUMBER: DG 418 W3 1967

SEQ NØ. 0

Cat. Orig. Ø

LANGUAGE IND I II: S ENG

DATE IND I II: S 1967

INDICATORS (I): Illus. A ✓ | Map B ✓ | Series C ✓ | Bibl. D ✓

INDICATORS (II): Subj. E ✓ | Title F ✓ | Pers. G | Corp. H | Govt. I | Uniform J | Supp.No. K | Main L | Campus M | Form N | M.E. Ø A | Work P M | Pamphlet Q

Func. Code | F/M | VARIABLE | DATA

1 plates.

~~Descr. & trav~~ Description and travel

10 Walker, Donald Smith.

20 A geography of Italy, by D. S. Walker. 25 2d ed. 30 London, Methuen 1967

40 xi, 296 p. maps, tables. 24½ cm. (Methuen's advanced geographies) 70/- 55

60 Bibliography: p. 285-288.

(B 67-2760)

70 1. Italy ~~Descr. & trav.~~ 71 I. Title

DG418.W3 1967 914.5 67-99883

Library of Congress 3

APPENDIX 2

*/PS/9473///E45/T8///0/0/S/ENG//S/1882//F/OAPMQ%

10 LESPERANCE, JOHN, 1838-1891.H20 TUQUE BLEUE;*A CHRISTMAS SNOWSHOE SKETCH.H

30 MONTREAL, DAWSON, 1882.H40 35 P.H74 I. TH

*/F/5081/9//M3/C65///0/L/S/ENG//S/1891//AEFG/OAPM%

10 COLLINS, JOSEPH EDMUND, 1855-H20 CANADA'S PATRIOT STATESMAN.* THE LIFE AND CAREER OF THE

~~RIGHT HONOURABLE SIR~~ JOHN A. MACDOANLD. BASED ON THE WORK OF EDMUND COLLINS.H25 REV.,* WITH

~~ADDITIONS TO~~ DATE, BY G. MERCER ADAM.H30 TORONTO, ROSE PUB. CO.,

RIGHT HONOURABLE SIR JOHN A. MACDONALD. BASED ON THE WORK OF EDMUND COLLINS.H25 REV.,*WITH

ADDITIONS TO DATE, BY G. MERCER ADAM.H30 TORONTO, ROSE PUB. CO., 1891.H40 XXIII, 613 P. ILLUS.H

70 1. MACDONALD, JOHN ALEXANDER, SIR, 1815-1891.* 2. CANADA--HISTORY--19TH CENT.H71 I. ADAM,

GRAEME MERCER, 1839-1912.H74 II. TH

*/E/185///R74//1961//0/L/S/ENG//S/1961//AEF/OAPM%

~~10 ROGERS, JEOL~~ AUGUSTUS, 1880-H20 AFRICA'S GIFT TO AMERICA;*THE AFRO-AMERICAN IN THE MAKING AND

10 ROGERS, JOEL AUGUSTUS, 1880-H20 AFRICA'S GIFT TO AMERICA;*THE AFRO-AMERICAN IN THE MAKING AND

SAVING OF THE UNITED STATES. WITH NEW SUPPLEMENT: AFRICA AND ITS POTENTIALITIES.H25 {REV. AND

ENL.*CIVIL WAR CENTENNIAL ED.}H30 NEW YORK, H.M. ROGERS {C1961}H40 272 P. ILLUS.H70 1. NEGROES--

NEGROES--HISTORY.* 2. NEGROES IN AFRICA.H74 I. TH

*/BX/4933///M6/Z4///0/L/S/ENG//S/1969//CDEF/OAPM%

~~10 ZEMAN, JAROLD KNOX~~.H20

10 ZEMAN, JAROLD KNOX.H20 THE ANABAPTISTS AND THE CZECH BRETHREN IN MORAVIA 1526-1628.* A STUDY OF

ORIGINS AND CONTACTS.H30 THE HAGUE, MOUTON, 1969.H40 407 P.H55 {STUDIES IN EUROPEAN HISTORY, 20}H

~~60 REVISION OF THESIS~~, UNIVERSITY OF ZURICH.H61 BIBLIOGRAPHY: P.{350}-385.H70 1. ANABAPTISTS--

~~MORAVIA.* 2. BOHEMIAN~~ BRETHREN--HSITORY.* 3. REFORMATION--MORAVIA.H74 I. T.H

60 REVISION OF THESIS, UNIVERSITY OF ZURICH.H61 BIBLIOGRAPHY: P.{350}-385.H70 1.

ANABAPTISTS--MORAVIA.* 2. BOHEMIAN BRETHREN--HISTORY.* 3. REFORMATION--MORAVIA.H74 I. TH

*/PR/6068///U75/A65///0/L/S/ENG//S/1963//CF/OAPMQ%

10 RUDKIN, DAVID, 1936-H20 AFORE NIGHT COME.H30 NEW YORK, GROVE PRESS {C1963}H40 64 P.H55

{EVERGREEN PLAYSCRIPT NO.4}H74 I. TH

*/DA/541///B4/B3/1852A//0/L/S/ENG//R/1969/1852/E/OAPM%

10 BEACONSFIELD, BENJAMIN DISRAELI, 1ST EARL OF, 1804-1881.H20 LORD GEORGE BENTINCK;*A

POLITICAL BIOGRAPHY, BY B. DISRAELI.H25 2D ED.H30 LONDON, COLBURN, 1852. {FARNBOROUGH, ENG.,

GREGG INTERNATIONAL, 1969}H40 VIII, 588 P.H70 1. BENTINCK, LORD GEORGE, 1802-1848.H

~~*/HG/1811///P2///~~/0/L/S/ENG//R/1968/1903/EF/OAPM%

~~10 PALGRAVE, ROBERT~~ HARRY INGLIS, SIR, 1827-1919.H20 BANK RATE AND THE MONEY MARKET IN ENGLAND,

~~FRANCE, GERMANY, HOLLAND~~, AND BELGIUM, 1844-1900.* BY R.H. INGLISH PALGRAVE.H30 NEW YORK,

~~GREENWOOD PRESS~~ {1968, 1903}H40 XXIII, 237 P.H60 REPRINT OF THE 1903 ED.H70 1. BANKS AND

~~FRANCE, GERMANY, HOLLAND~~, AND BELGIUM, 1844-1900.* BY R.H. INGLIS PALGRAVE.H30 NEW YORK,

~~GREENWOOD PRESS~~ {1968, 1903}H40 XXIII, 237 P.H60 REPRINT OF THE 1903 ED.H

~~70 1. BANKS AND BANKING~~, CENTRAL--EUROPE.* 2. BANK OF ENGLAND.* 3. INTEREST AND USURY--EUROPE.H

APPENDIX 3

Language codes written in the Roman alphabet

AFR	Afrikaans	ITA	Italian
ALB	Albanian	LAT	Latin
ANG	Anglo-Saxon	LAV	Latvian
BAS	Basque	LIM	Limousin
BRE	Breton	LIT	Lithuanian
CAT	Catalan	NOR	Norwegian
CRO	Croatian	NUP	Nupe
CHE	Czech	PAL	Pali
DAN	Danish	POL	Polish-Polabian
DUT	Dutch	POR	Portuguese
ENG	English	RUM	Rumanian
ESP	Esperanto	SAR	Sardo (Sardinian)
EST	Estonian	SLO	Slovak
FIN	Finnish	SLV	Slovenian
FRE	French	SPA	Spanish
GER	German	SWE	Swedish
HUN	Hungarian	TUR	Turkish
ICE	Icelandic	WEN	Wendic
IND	Indonesian	AML	Amerindian Languages
		PRO	Provencal
		TAG	Tagalog
		TIV	Tivi

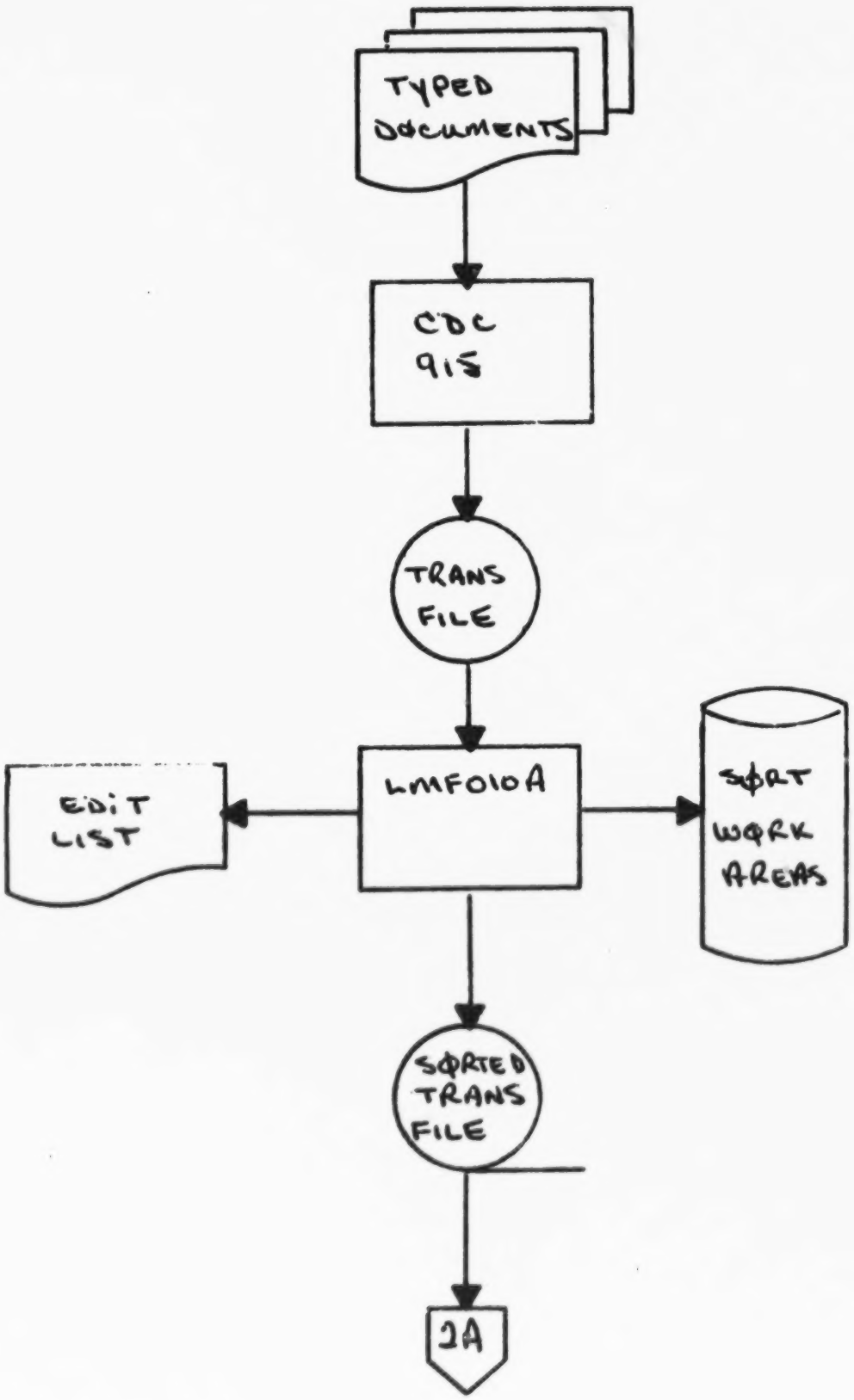
MUL Multi-lingual

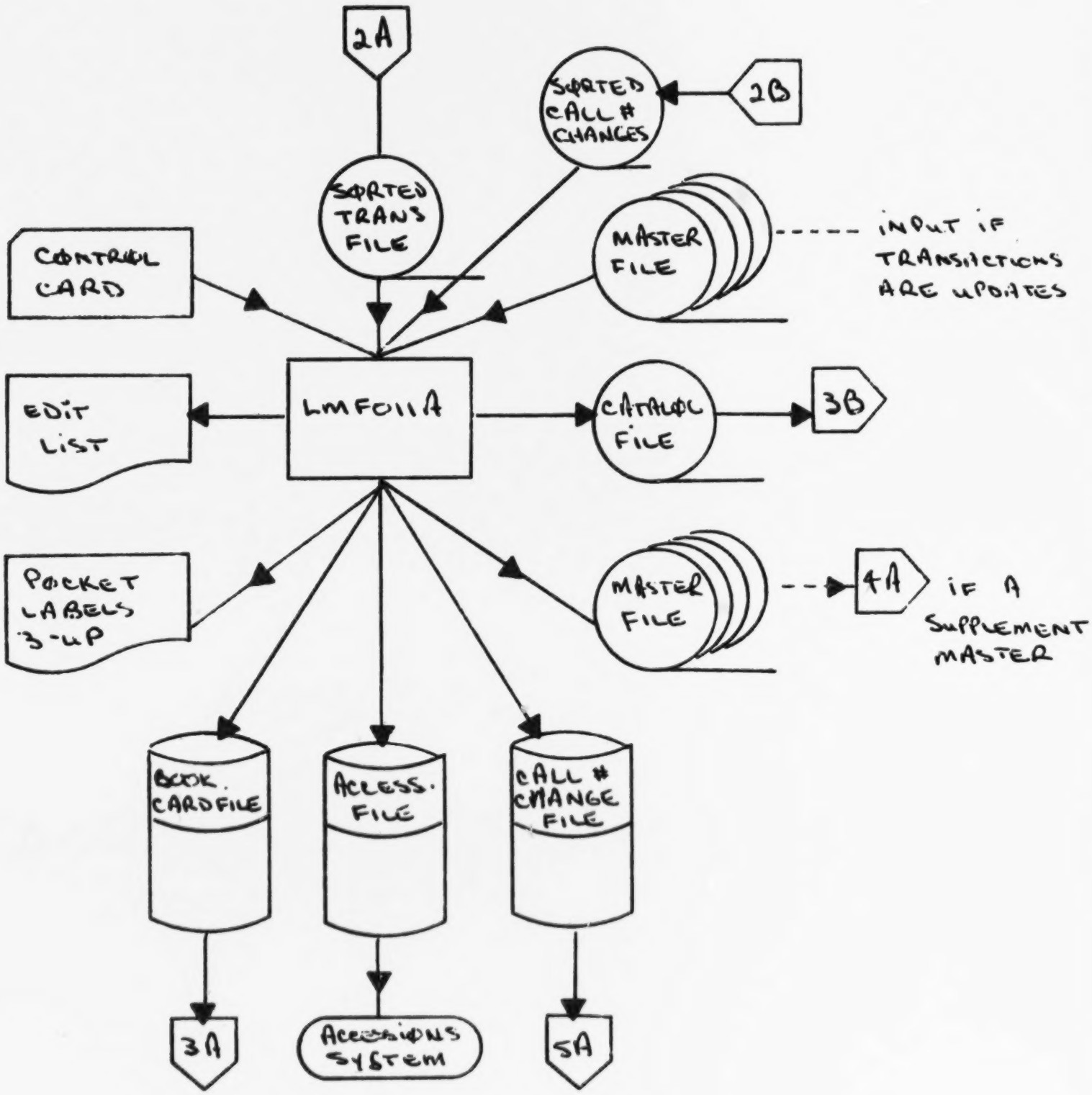
Language codes written in other than the Roman alphabet

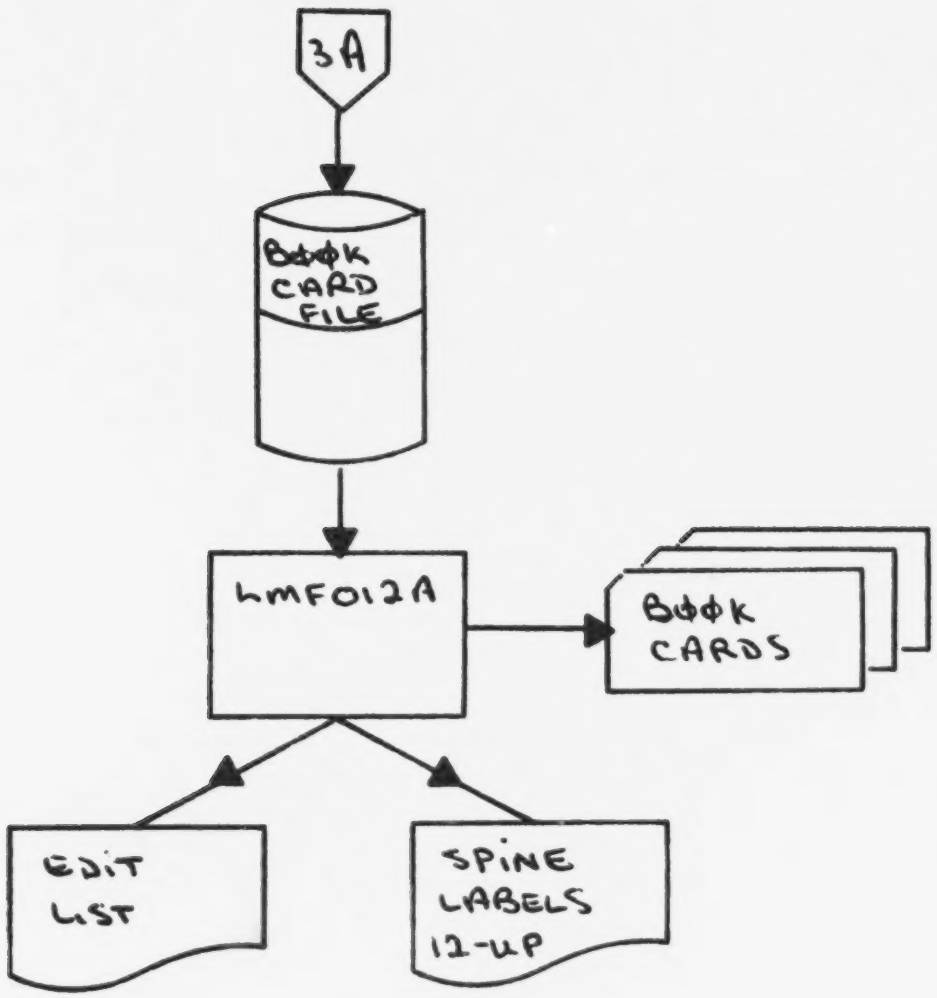
ARA	Arabic	HEB	Hebrew	SAN	Sanskrit
ARC	Aramaic	HIN	Hindi	SER	Serbian-Yugoslavian
ASM	Assamese	JAP	Japanese	TAM	Tamil
BEL	Belorussian	KAN	Kannada	TEL	Telugu
BEN	Bengali	KOR	Korean	UKR	Ukranian
BUL	Bulgarian	MAC	Macedonian	URD	Urdu
BUR	Burmese	MAL	Malayalan	YID	Yiddish
CHI	Chinese	MAR	Marathi		
CHS	Church Slavic	ORI	Oriya		
GAE	Gaelic-Irish	PAN	Panjabi		
GEO	Georgian	PAS	Pashto		
GRE	Greek(ancient & mod.)	PER	Persian-Iranian		
GUJ	Gujarati	RUS	Russian		

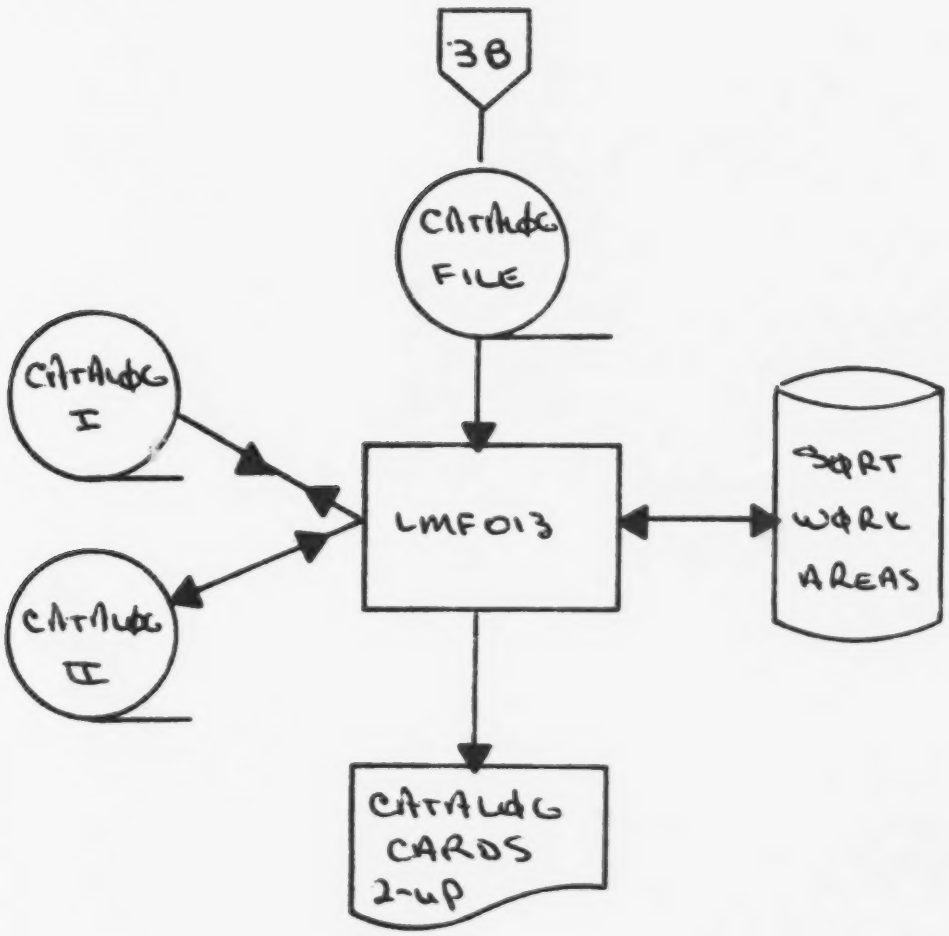
APPENDIX 4

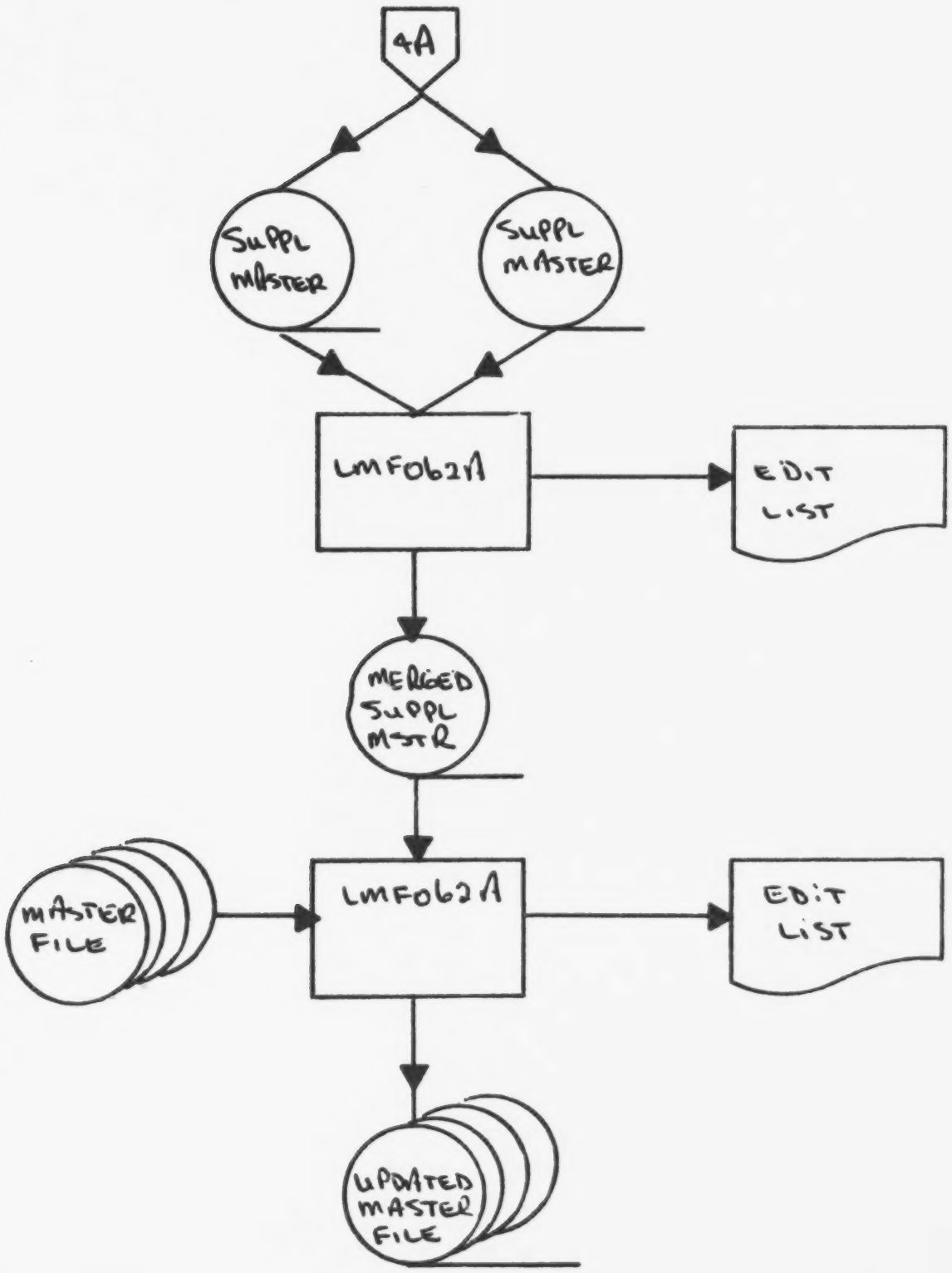
SYSTEMS FLOW CHART

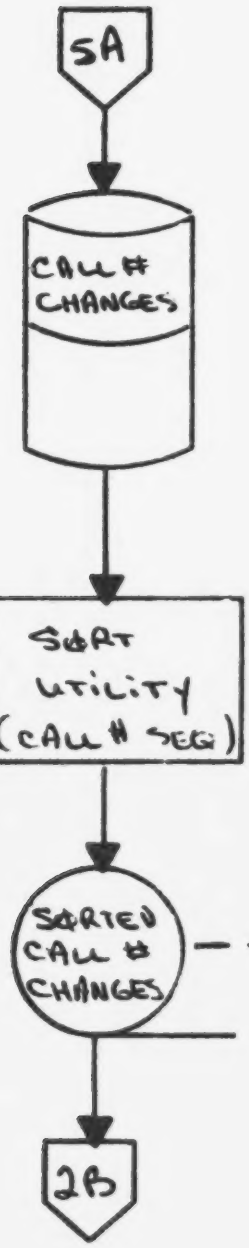



2A
SORTED CALL # CHANGES
2B
SORTED TRANS FILE
CONTROL CARD
MASTER FILE
INPUT IF TRANSACTIONS ARE UPDATES
EDIT LIST
LMF011A
CATALOG FILE
3B
POCKET LABELS 3-UP
MASTER FILE
4A
IF A SUPPLEMENT MASTER
BOOK CARDFILE
ACCESS. FILE
CALL # CHANGE FILE
3A
ACCESSIONS SYSTEM
5A


3A
BOOK CARD FILE
LMF012A
BOOK CARDS
EDIT LIST
SPINE LABELS 12-UP

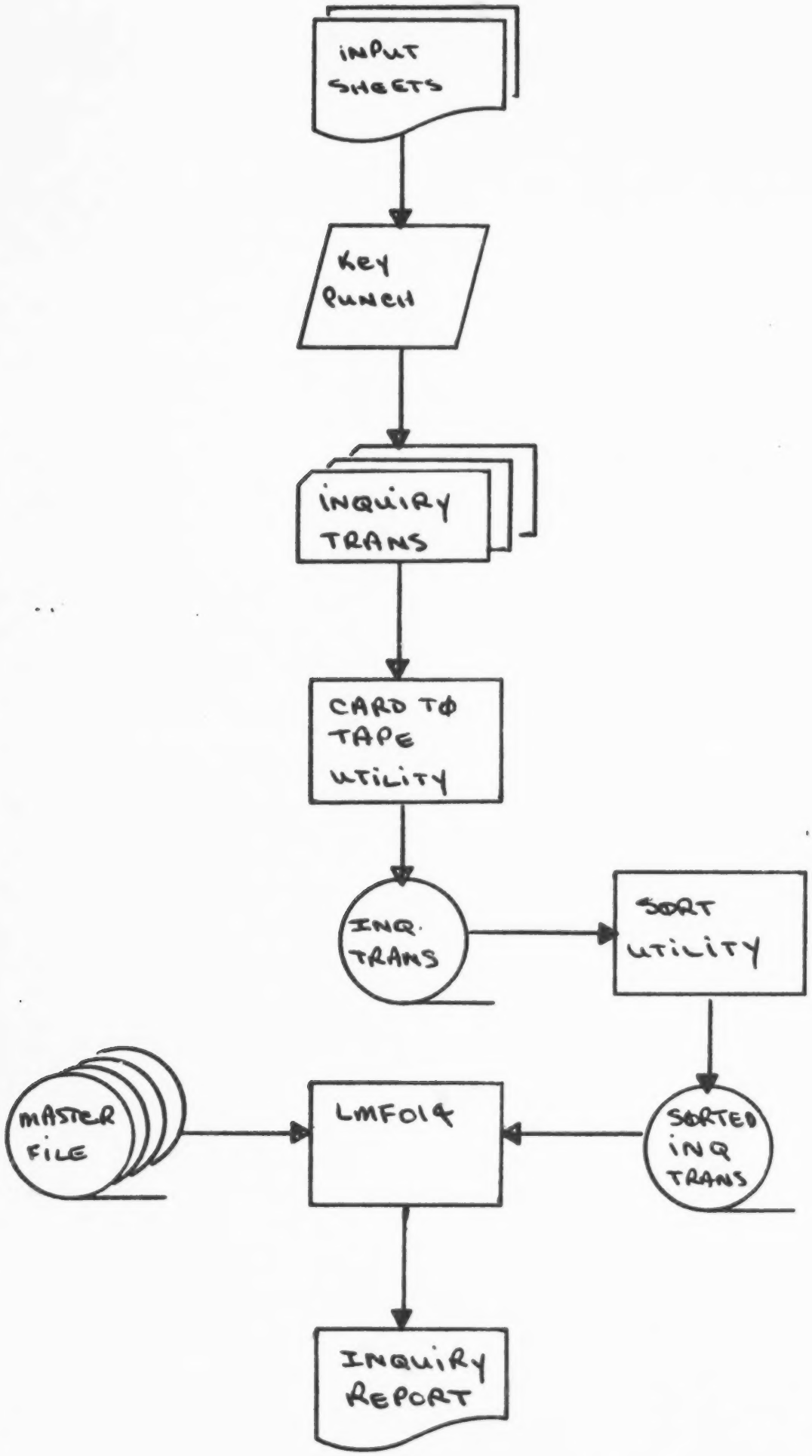

3B
CATALOG FILE
CATALOG I
CATALOG II
LMF013
SORT WORK AREAS
CATALOG CARDS 2-UP


4A
SUPPL MASTER
SUPPL MASTER
LMF062A
EDIT LIST
MERGED SUPPL MSTR
MASTER FILE
LMF062A
EDIT LIST
UPDATED MASTER FILE



NB - WHEN CALL # CHANGE FILE IS INPUT TO LMFO11A, THIS FILE REPLACES THE MASTER FILE AND THERE IS NO INPUT TRANSACTION FILE

MASTER FILE INQUIRIES



APPENDIX 5

ERROR MSG	INPUT RECORD
LC DUPE	DU 422 W2 G3 0 LSENG S1898 ABCDE OAPM DU 422 W2 G3 0 LSENG S1898 ABCDE OAPM 10 GARNETT, RICHARD, 1835-1906.@20 EDWARD GIBBON WAKEFIELD;#THE COLONIZATION OF SOUTH% 10 GARNETT, RICHARD, 1835-1906.@20 EDWARD GIBBON WAKEFIELD;#THE COLONIZATION OF SOUTH AUSTRALIA% AND NEW ZEALAND, BY R. GARNETT.@30 NEW YORK, LONGMANS, GREEN, 1898.@40 XXVII, 386 P. MAPS,% AUSTRALIA AND NEW ZEALAND, BY R. GARNETT.@30 NEW YORK, LONGMANS, GREEN, 1898.@40 XXVII, 386 P. % MAPS, PORT.@55 (BUILDERS OF GREATER BRITAIN)@60 BIBLIOGRAPHICAL FOOTNOTES.@70 1. WAKEFIELD,% PORT.@55 (BUILDERS OF GREATER BRITAIN)@60 BIBLIOGRAPHICAL FOOTNOTES.@70 1. WAKEFIELD, EDWARD% GIBBON, 1796-1802.@% EDWARD GIBBON, 1796-1862.@%
OCR ERR	PQ 251 G5 0 OSFRE R19681914DEF OAPM 10 GILLOT, HUBERT, 1875-@20 LA QUERELLE DES ANCIENS ET DES MODERNES EN FRANCE;#DE LA DEFENSE ET% ILLUSTRATION DE LANGUE FRANCAISE AUX PARALLELES DES ANCIENS ET DES MODERNES.@30 GENEVE,% SLATKINE REPRINTS, 1968.@40 XXVIII, 610 P.@60 "REIMPRESSION DE L'EDITION DE NANCY, 1914".@61% BIBLIOGRAPHY: P.(XII-XXVIII)@70 1. LITERATURE, COMPARATIVE--CLASSICAL AND FRENCH.# 2.% LITERATURE, COMPARATIVE--FRENCH AND CLASSICAL.# 3. CLASSICAL LITERATURE--APPRECIATION.# 4.% CLASSICISM.@74 I. T@% 9999999999

SHELF LIST TRANSACTIØNS - EDIT LIST

Output from program LMFOIOA

Error MSG	MSG Description	Action Code
1. SEQ ERR	The sequence nos. assigned to each physical record within a particular call number are not in ascending order.	1
2. LC-DUPE	Two or more logical records have the same call number	2
3. ØCR ERR	The optical scanner could not read one or more physical records and the data is replaced with the digit 9.	1
4. F/M INVALID	The file maintenance code in the fixed portion of the input transaction is not a blank, A, C, D, or E.	3
5. HDR ABSENT	An input transaction was encountered containing no fixed field information; i.e., a physical record with sequence no. 01 is absent.	1
6. REC > MAX	The number of physical records pertaining to one call number is greater than the maximum specified by the program. The maximum is 20.	4

DESCRIPTION OF ACTION CODES

1. This error indicates that a physical record(s) has been dropped or that the ØCR program is incorrect. Check the worksheet with the edit list to determine what information is missing. Retype, including the missing data element(s). If it appears that no data is missing on the edit list, notify the Library Systems Dept.

2. Check the worksheets, correct the call number(s) in error. Retype data for all records appearing on the edit list.

3. Check the worksheet. Correct the file maintenance code, retype.

4. Notify the Library Systems Dept. Re-enter entire record.

SHELF LIST UPDATE EDIT LIST

ERROR TCODE — TRANSACTION/MASTER RECORD DATA

```
FM-CDE    F    735      K57                    0 LSENG    S1879    AEF      OAPM
          10 KING, MOSES, 1835-1909, ED.@20 KING'S HAND-BOOK OF BOSTON.@30 CAMBRIDGE, C1879.@40%
          304 P.  ILLUS.@70 1. BOSTON--DESCRIPTION.# 2. BOSTON--HISTORY.@74 I. T@%

FM-CDE    HD 1375      S73                    0 LSENG    S1968    EF       OAPM
          10 STEACY, RICHARD.@20 CANADIAN REAL ESTATE:#HOW TO MAKE IT PAY.@30 (TORONTO) P. MARTIN ASSOCIATES%
          (C1968)@40 X, 236 P.@70 1. REAL ESTATE BUSINESS.# 2. REAL ESTATE INVESTMENT--CANADA.@74 I. T@%

INDIC     HE 2807      I78                    0 LSENG    S19681939DEF        AOPM
          10 IRWIN, LEONARD BERTRAM, 1904-@20 PACIFIC RAILWAYS AND NATIONALISM IN THE CANADIAN-AMERICAN%
          NORTHWEST, 1845-1873.@30 NEW YORK, GREENWOOD PRESS, 1968 (C1939)@40 XII, 246 P.@60 FIRST%
          PUBLISHED IN 1939 AS THESIS, UNIVERSITY OF PENNSYLVANIA.@61 BIBLIOGRAPHY: P.227-242.@%
          70 1. PACIFIC RAILROADS--EARLY PROJECTS.# 2. NORTHWEST, CANADIAN.# 3. RAILROADS AND%
          STATE--CANADA.# 4. CANADIAN PACIFIC RAILWAY.# 5. NORTHERN PACIFIC RAILROAD.@74 I. T@%

F-CODE    HQ 1067      T53                    0 LSENG    S1969    DEF      OAPM
          10 TIGER, LIONEL, 1937-@20 MEN IN GROUPS.@30 NEW YORK, RANDOM HOUSE (C1969)@40 XX, 254 P.@%
          60 BIBLIOGRAPHY: P.(218)-245.@70 1. MEN.# 2. PSYCHOBIOLOGY.# 3. SOCIAL GROUPS.@74 I. T@%

FM-CDE    ND  236      N48                    0 LSENG    S19661944ADEG       OAPM
          10 NEW YORK (CITY)  MUSEUM OF MODERN ART.@20 LYONEL FEININGER,#WITH ESSAYS BY ALOIS J. SCHARDT AND%
          ALFRED H. BARR, AND EXCERPTS FROM THE ARTIST'S LETTERS.  EDITED BY DOROTHY C. MILLER.  MARSDEN%
          HARTLEY, WITH STATEMENTS BY THE ARTIST (AND) FOREWORD BY MONROE WHEELER.@25 REPRINT ED.@30 (NEW%
          YORK) PUBLISHED FOR THE MUSEUM OF MODERN ART BY ARNO PRESS, 1966 (C1944)@40 95 P.  ILLUS.@60%
          REPRINT OF THE 1944 ED.@61 TITLE ON SPINE: FEININGER-HARTLEY.@62 INCLUDES CATALOGS OF THE ARTISTS'%
          WORKS EXHIBITED AT THE MUSEUM OF MODERN ART, CA. 1944.@63 INCLUDES BIBLIOGRAPHIES.@70 1.%
          FEININGER, LYONEL CHARLES ADRIAN, 1871-1956.# 2. HARTLEY, MARSDEN, 1877-1943.@71 I. SCHARDT,%
          ALOIS JAKOB, 1889-# II. BARR, ALFRED HAMILTON, 1902-# III. MILLER, DOROTHY CANNING, 1904-ED.@%

F-CODE    PR 6003      E45    D65                 0 LSENG    R19681910CF         OAPM
          10 BELLOC, HILAIRE, 1870-1953.@20 ON SOMETHING,#@Y H. BELLOC.@30 FREEPORT, N.Y., BOOKS FOR%
          LIBRARIES PRESS (1968, 1910)@40 271 P.@55 (ESSAY INDEX REPRINT SERIES)@60 REPRINT OF THE 1910%
          ED.@74 I. T@%

FM-CDE    QR   84      S5795                  0 LSENG    S1969    ACDEFGH     MVOCPM
          10 SOCIETY FOR GENERAL MICROBIOLOGY.@20 MICROBIAL GROWTH:#NINETEENTH SYMPOSIUM OF THE SOCIETY FOR%
          GENERAL MICROBIOLOGY HELD AT UNIVERSITY COLLEGE, LONDON, APRIL 1969.  (EDITED BY PAULINE%
          MEADOW AND S.J. PIRT)@30 CAMBRIDGE (ENG.) PUBLISHED FOR THE SOCIETY FOR GENERAL MICROBIOLOGY%
          (BY) CAMBRIDGE UNIVERSITY PRESS, 1969.@40 X, 450 P.  ILLUS.@55 (THE NINETEENTH SYMPOSIUM OF%
          THE SOCIETY FOR GENERAL MICROBIOLOGY)@60 INCLUDES BIBLIOGRAPHIES.@70 1.%
          MICRO-ORGANISMS--CONGRESSES.# 2. CELL PROLIFERATION--CONGRESSES.@71 I. MEADOW, PAULINE, ED.#%
          II. PIRT, S.J., ED.@72 III. LONDON.  UNIVERSITY.  UNIVERSITY COLLEGE.@74 IV. T@75 (SERIES:%
          SOCIETY FOR GENERAL MICROBIOLOGY./ SYMPOSIUM, 19)@%

FM-CDE    SF   65      L49                    0 OSENG    S19571952AEG        OEPM
          10 THE LIVESTOCK BOOK.# (STAFF OF WRITERS: W.R. THOMPSON, AND OTHERS)@30  STATE COLLEGE, MISS.,%
          W.R. THOMPSON, 1957, C1952.@40 V, 370 P.  ILLUS.@70 1. STOCK AND STOCK-BREEDING.@71 I.%
          THOMPSON, WILFRED ROLAND, 1904-@%

WORK      SF  193      J4     C3                  0 OSENG    S1947    F        OCPA
          10 CANADIAN JERSEY CATTLE CLUB.@20 CANADIAN RECORD OF PERFORMANCE, PRODUCTION RECORDS, AND%
          TYPE CLASSIFICATION OF JERSEY CATTLE.@25 1ST COMBINED V.@30 TORONTO (1947)@74 I. T@%
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SHELF LIST UPDATE EDIT LIST

Output From Program IMFOIIA

Error MSG		MSG Description	Action Code
1.	DUPE	Master record was input with a blank file maintenance code indicating a new master. The master file already contains a record with the same call number.	1
2.	NO-MCH	Update transaction was input with a file maintenance code of A, D, C, or E indicating tnat a master record is present in the file. The master record to be updated could not be found (no-match).	2
3.	NO/ME	A new master record was input without a main entry; i.e., function code 10 is absent.	3
4.	LC	The LC call number is incorrect on the input transaction: (a) First 3 characters are not alphabetic or blank (b) Positions 4-7 are not numeric or blank (c) Sequence no. not 0-9	4
5.	CAT/OR	The cataloguing origin code is not an L, M, O, or P.	4
6.	LANG	The language indicator is not A, T, M, D, G, or S. If the language indicator is an S, then language II is not blank	4
7.	DATE	The date indicator is not an R, N, M, Q, or S.	4
8.	INDIC	(a) New master was input without any type I indicators	4
		(b) Type II indicators are not L, M, N, O, P, or Q.	4
9.	LOC	The location within the main library is not a T, R, D, C, H, O, B, S, L, I, P, or E, or 1 - 5	4

Error MSG	MSG Description	Action Code
10. LIB	The campus indicator (Branch Library) is not a V.	4
11. FORM	The form code indicator is not > 0 and < 7.	4
12. ENTRY	The type of main entry indicator is not an A, B, C, D, or E.	4
13. WORK	The type of work indicator is not an M or S.	4
14. F-CODE	A function code is not 00, 10, 20, 25, 30, 40 45, 49 and 77, 80, 82, or 85.	4
15. FM-CDE	Invalid File maintenance code: (a) New master record was input with a F/M code that was not blank. (b) Update transaction contains an F/M code not equal to an, A, C, D, or E.	1, 2
16. OV-LMT	The number of physical records pertaining to one call number is over the limit specified in the program. The limit is 20.	5
17. HOLDING	An entry within a holdings statement (function code 80, 82) contains more than 31 positions.	6
18. TR/MAX	The number of trailers created for one logical input record is greater than the maximum of 120.	5
19. CC/MAX	The number of cards in one card set is > 10 or the number of lines for one card set is > 180.	7
20. NØDATA	A new master record was input with fixed field only- no variable data is present.	8
21. ADD/EN	An added entry heading is too long and catalogue card data cannot be set-up because the heading, call number, author and one line title take up the entire card.	9

DESCRIPTION OF ACTION CODES

1. Determine if the transaction was meant to be an update. If so, input with the correct file maintenance code.

   If the transaction was intended to create a new master, check the shelf list for the duplicate call number. Advise supervisor.

2. Check the call number on the typed document with the work sheet. If incorrect, retype the transaction. If the call numbers appear to be correct, check the shelf list and input with the correct call number. If the call number is not in the shelf list advise supervisor - the transaction must then be input as a new master record with a blank file maintenance code.

3. This error may occur in a 'Title as main entry' form - which must have a function code 10 instead of 20.
   In any case, check the work sheet and input the entire record.

4. Check the work sheet, correct the field in error, and retype the entire record.

5. Advise the Library Systems Department since this error required modification to the program. Retype the record.

6. Check the work sheet. There should not be 31 positions of data between $ in the holdings statement. Correct and recode the data element as an update transaction.

7. Check the input documents. If no error is found advise the library systems department.

8. Check the work sheet. If the file maintenance code is valid (new record) retype the record and include the variable data. If the record is an update, retype with the fixed fields with correct file maintenance code.

9. Check the input sheet for a delimiter in the added entry in question. This error usually occurs in the title added entry card set because the # is not present in the input record. Submit an update transaction for the data element causing the error.

NOTE:

All corrections should be indicated on the edit list which is then forwarded to the Cataloge Typing Section for re-entry into the system. The books in error should be removed from their batch and inter-filed with the current batch.

	MAIN			OVC		
	TITLES	ADDED VOL.	ADDED COPIES	TITLES	ADDED VOL.	ADDE COPIE
MONOGRAPHS	399	22	8	14		
SERIALS	12	58				
RECATALOGUING	2	7				
RARE BOOKS	27	2	8			
THESES						
M/FILM						
MICRO CARDS						
MICRO FICHE						

MASTERS READ MASTERS WRITTEN 454MASTERS UPDATED

CATALOGUE CARD FILE RECORD COUNT

49248

LC NUMBER CHANGE FILE RECORD COUNT MASTER ERASED TRANS REJECTED 3

00000

UNIVERSITY OF GUELPH,

BOOK CARD/SPINE LABEL EDIT LIST

OUTPUT FROM PROGRAM LMF012A

ERROR MSG	MSG DESCRIPTION	ACTION CODE
1. Book File CPY/Vol> MAX	No $ was encountered and book file copy field > 200 or the volume field > 500 positions.	1
2. Holdings> 3 Lines	The copy or volume field to be printed on the spine label > 27 positions; i.e. the 3 lines allowed.	1
3. BK Card CPY/VOL > 22 Char	The copy or volume field to be punched in the book card > 22 positions.	1
4. Label Output > 9 Lines	Nine lines of print only may be output on each label. The data for this label exceeds 9 lines.	1

DESCRIPTION OF ACTION CODE

1. Check the input work sheet and the typed input document. If the data is incorrect, input a correction transaction. If the data appears to be correct (i.e., $'s in proper place etc.) notify the Systems Department.